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By-Suid, Murray; And Others

The Wheel: A Model For Multi-Media Learning.

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To help correct the improper emphasis on media as "aids" rather than as integral parts of education, teachers in a media laboratory investigated the potential of the electro-chemical media in learning, not denying the importance of reading and writing. The schema developed to order and integrate this kind of learning is called the wheel. Arranged around the rim of the wheel in a logical progression are six distinct media: the body, design, sound, photography, the moving image, and print. Since communication is both active and reactive (e.g., creating and listening to sounds), learning activities which explore content to be taught and which involve action and reaction can be designed for each medium on the wheel. The advantages of a wheel-oriented curriculum are that it offers easy access to more content areas, is in closer touch with natural learning, and provides a better context for teaching literacy skills. (JS)

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How to read this issue The proposed September cover was nearing completion when advisor Barry Beyer sent a "poem" along to us, urging us to display it in "a very prominent position" in the September issue. He felt—and we concurred—that it was different, exciting, true and extremely relevant. The circumstances from which the poem evolved are as unorthodox as the poem. It was submitted as part of a report (sic) to School District #4 in Eugene, Oregon by a language arts workshop this past summer. Although principally authored by junior high teacher Ray Scofield, it reflects the sentiments (and in several places the authorship) of his fellow teachers in the workshop. Its impact on administrators was, Scofield indicated, predictable enough—utter disbelief. But, having overcome the problem of filing it, they found they could live with it. Oregon has done well by us recently: McCarthy's primary win and the cover poem. M&M offers the latter for your back to school musings.

11 "There is a universal bias against back issues of newspapers and magazines," editor Frank McLaughlin suggests. "People feel that what happened two weeks ago or two months ago is stale beer. It's lost its relevance, zing. It was written for the moment and got swallowed by the next." With characteristic modesty he added, "If people are still quoting Socrates and Ben Franklin—and I hear that they are—they should still be quoting M&M." In researching back issues he came up with plenty to quote. The Rouses, the Culkins, and the McLuhans are worth listening to in **What Do We Want Our Children To Be?**

18 **Use Words Because the Skin Forgets,** despite the opaqueness of its title (it gets explained eventually), is another lucidly fashioned "tour de Rouse" (John Rouse, that is) on the author's favorite rite: composition. Last September, in "'How To Manufacture Tin Ears," he examined the schools' complicity in reducing flesh to tin. This product of school manufacture, he said, "accepts easily the jolting rhythms that give exquisite pain to other ears, and reduces harmony and discord alike to the same uniform metallic flow of sound. To this ear all poetry is prose, and all prose prosaic." The current article fixes on the dehumanization that occurs when writing is taught as mere communication.

29 Murray and Roberta Suid and Jim Morrow have written what we feel is a quietly revolutionary concept in multi-media instruction. In **The Wheel: A Model for Multi-Media Learning,** they explore the possibility of teaching via genuine multi-sensory experience. What they present is a far cry from the facile "Read the Book—See the Movie" concept of multi-media which barely scratches the surface. In addition, the project isn't "sub rosa"—as many projects of this sort tend to be. The Suids are active teachers in the Philadelphia system; Jim Morrow is a film student at the University of Pennsylvania. Under their leadership, a multi-media workshop has been instituted in the Philadelphia system with the blessing and cooperation of the School Board. Hence, this article is meant to be practical. It has been implemented. The same can be done wherever there is the will.

Other features Two significant innovations mark the September issue of M&M. **Focus on Young Filmmakers** (p. 36) is designed to encourage film production by offering monthly commentary on the young filmmakers scene, and, more important, by establishing a distribution procedure for films produced by the young which are often superb—but completely unavailable to anybody. **Mediabag** (p. 56) is a monthly review of notable materials which pass across our desks. Used in connection with the Infocard system, it can provide you with information—painlessly.

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THE WHEEL: A MODEL FOR MULTI-MEDIA LEARNING

"PERMISSION TO REPRODUCE THIS COPYRIGHTED MATERIAL HAS BEEN GRANTED BY Media and Methods Institute and authors TO ERIC AND ORGANIZATIONS OPERATING UNDER AGREEMENTS WITH THE U.S. OFFICE OF EDUCATION. FURTHER REPRODUCTION OUTSIDE THE ERIC SYSTEM REQUIRES PERMISSION OF THE COPYRIGHT OWNER."

Beyond film-making, beyond sound-making, beyond art, mime and photography, beyond any one of these singly, there is a multi-media which considers all the senses collectively. The following program is an example. It exercises basic skills in communications and specially exercises skills in print for the literacy-retarded student. At the same time, it is meant to modernize the general educative process in school for all children—regardless of their achievement levels. Created and developed by a group of twenty teachers in Philadelphia under the direction of Murray and Roberta Suid, and Jim Morrow, it is the first chapter of a book which is being written by the multi-media workshop of the Philadelphia schools.

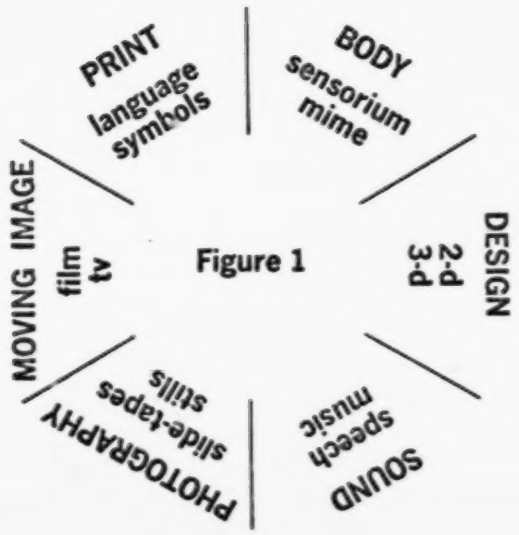

Figure 1

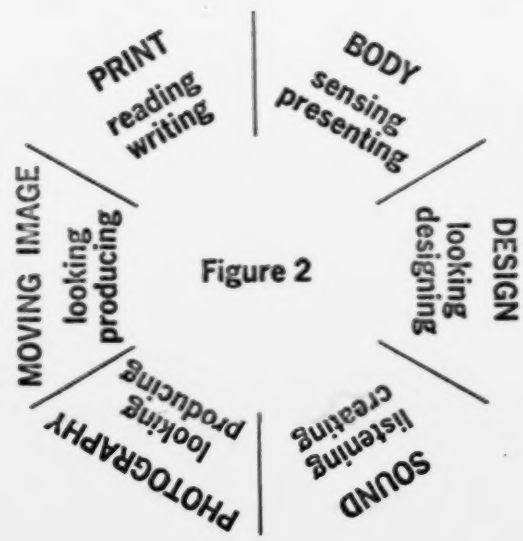

Figure 2

BY MURRAY SUID, ROBERTA SUID, JAMES MORROW. Our schools bankrupt the senses. Outside the classroom, a kid's seeing, hearing, touching, tasting, and smelling capacities are constantly extended and enriched through the interposition of tools and rules called media. Film, television, radio, photographs—all of these are accessible to kids as sources of information in the out-of-school environment. For example, consider all the ways people learn about the Vietnam war. We read the newspaper, listen to the radio, watch TV, get letters from relatives, look at news photos, talk with friends. In the real world, obviously, learning is eminently a multi-media experience.

Meanwhile, back in the schools, learning is generally seen as a matter of reading, writing, and sometimes talking (reciting). Print reigns supreme. The other media get their feet in the classroom door only as a kind of educational frosting called "audio-visual aids." The term "aid" symptomatic of the problem. McLuhan says "The medium is the message." In other words, the medium is not an aid. It's not frosting. It's the cake, the message.

In an effort to move beyond the discredited concept of A-V, we ran an eleven-week Saturday morning staff development program in multi-media last spring under the sponsorship of the School District of Philadelphia Instructional Services Office. Twenty Philadelphia teachers came together in the belief that there was a need to bring the theory and practice of the modern communications media into public school education. We realized that the difficulties in harnessing these media for use in the schools are many and complex. The A-V approach seemed to emphasize hardware stockpiling. Instead, we saw personnel as the main problem. The use of media requires artistry as well as technological know-how, an understanding of modern epistomology as well as pedagogy. We knew that the hardware was important, but we felt that without creative people, it would be misused or not used at all, and the resources spent on it would buy only cynicism rather than improved education. A media laboratory for teachers was clearly the best place to begin.

Throughout the program, the problem of retarded literacy which afflicts so many of our urban students remained in focus. While we were tremendously excited by the potential of the electrochemical media to teach almost anything, we did not deny the importance of reading and writing in learning. Rather, we stressed their importance in the context of an extremely varied kind of learning, one which does not see the non-print media as mere auxiliaries of the book.

THE WHEEL The schema which we developed to order and integrate this kind of learning is called the wheel. In our staff development program, we explored six distinct media—*the body* (the sensorium, mime, improvisational drama), *design* (art, graphics, 2-d and 3-d creations), *sound* (speech, noise, music), *photography* (stills, slide-

tapes), *the moving image* (film, television), and *print* (reading and writing in English and other symbolic systems). All of these media are brought together on the rim of the wheel in a logical progression (see fig. 1).

We start with the body as a kind of proto-medium and the senses as the most fundamental tools for mediating experience. The least technologically complex application of these tools is found in art creations like drawings (2-d) and sculpture (3-d). After design we get into the electro-chemical half of the wheel — sound, then sight (photography), then their union in the slide-tape. From the still image it's a natural step to the moving image. Print comes last, since it is usually the most difficult of all the media for the student to come to terms with.

THE WHEEL AND CONTENT What we've got now is the skeleton of a multi-media curriculum. Under each medium, the teacher can write in materials and lesson ideas which explore whatever content or skill he wishes to teach. We call this "creating a wheel." For example, the teacher might make a "love-wheel" to get students dealing with the issues raised by the concept of love. Theoretically, the more media that can be brought into play in a particular wheel, the easier it is to involve kids in the content. An orderly way of going about this is suggested by a basic assumption of modern communications theory.

Communication involves two phases. In the active phase, the communicator produces the message—he writes something, says something, makes a film. In the reactive phase, he receives the message and reacts to it—he reads, sees a film, hears a tape, thinks. We believe that learning includes the same two phases. Traditional school seems hostile to the active phase. Indeed, even within the print medium the amount of reading done in the classroom is probably greater than the amount of significant writing. The videotaping equipment which has been unloaded in many school systems points up the problem. Instead of exploring TV's inherent ability to let kids feed back to themselves and get information about their own behavior, the hardware is largely employed to broadcast "educational television," which as far as we're concerned is neither educational nor television. It is partly in response to this phenomenon that we have become biased toward the active phase of learning. We feel that the student should be presented not only with materials to which he can react, but also problems with which he can actively grapple and which lead him to creative production of an artistic or scientific sort.

Thus, while in the print-oriented curriculum there are *reading* and *writing*, in the wheel-oriented curriculum there are: *sensory experiences* both active and reactive, *looking at* and *designing* 2-d and 3-d creations, *listening to* and *creating* (and capturing through electronic recording) all sorts of sounds, *looking at* and *producing* photographs, *looking at* and *producing* films and TV shows, and *reading* and *writing* (see fig. 2).

When a teacher creates a wheel, then, he is really creating two wheels—a presentation-wheel which confronts the student with films, recordings, and other media productions, and a problem-wheel which generates problems which he can solve using the various media. For the sound component of a love-wheel, for example, the teacher might play some love songs as the reactive phase. The active phase would pose the problem, "What are the sounds of love?" and the student might go out with a tape recorder and come back with a recording of, say, a bedspring.

MAKING A WHEEL At this point it would be instructive to go through an example of the entire process of creating a wheel. Our sample is a context-wheel, that is, a wheel which schematizes a curriculum unit in which the topic is context. The context-wheel teaches how context determines meaning. To construct it, the teacher would first write down lessons in both phases of all the media which compose the wheel. For the reactive phase, he would design a series of experiments that convince students of the importance of context in understanding a given stimulus. For the reactive phase, the teacher would set problems which challenge students to separate a given figure from its regular context, play with it by putting it into different contexts, and observe how its meaning changes. A possible set of lessons for a context-wheel is suggested on the next page (see fig. 3). The next step would be to list these lessons on the wheel so that the different media-materials and media-problems can be easily visualized. The wheel should now function as a catalyst for discovering new relationships between the lessons and permitting additional learning possibilities to suggest themselves.

The final step would be to actually teach the context-wheel.

THE WHEEL AND NATURAL LEARNING The wheel is a model, not a mandate. Its progression need not be followed literally. For example, for some wheels it might be best to begin with sound or photography or even print. In the presentation-wheel, the teacher should seize upon whatever appropriate materials he can find. Often, none will be available for a particular medium. Of course, the teacher himself might want to create the film or the tape or the photograph which will inspire responses relevant to the wheel under consideration. One of the most exciting implications of the model is that it turns both students and teachers into producers. But if this alternative is not feasible, then the reactive phase of the medium in question will have to be left out. Similarly, if the hardware necessary for the student to solve a problem in that medium is not at hand, then its active phase will also have to be dropped. This does not mean that the wheel involved can

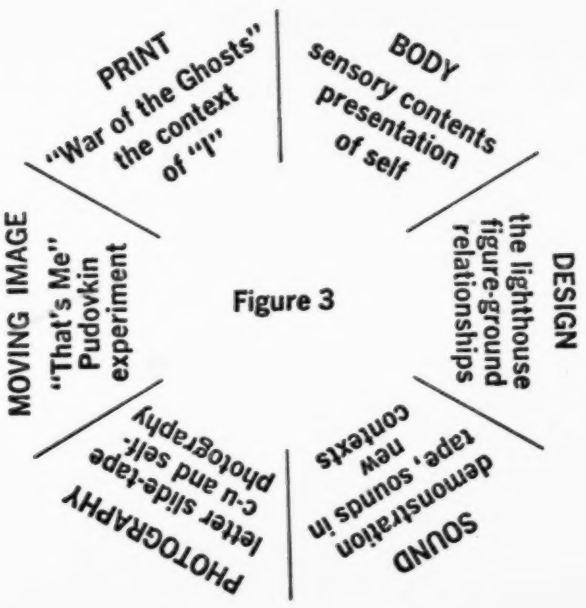

Figure 3

REACTIVE	ACTIVE
BODY—Three cups of water of different temperatures. No. 2 feels "hot" when compared with No. 1 but feels "cool" compared with No. 3.	Appear in some given situation (context) in strange garb (e.g. walk down Main St. barefooted. Observe reaction.)
DESIGN—Drawing of a light house from overhead position. Beams of light, ground around lighthouse seem strange. At first, it's hard to figure what it is. Once lighthouse is recognized, one has new insight into the "nature" of a lighthouse.	Draw an object from a novel point-of-view, or place it in new contexts. Or, give magazine cutouts new meanings in new contexts.
SOUND—Demonstration with musical scale. F-sharp in one scale is right; in another scale it is a "mistake" and sounds awful.	Take a sound that seems naturally bound up with a context. Strip it of that context, give it a new one, and change its meaning. E.g., take the sound of a machine gun (war, killing) and make it sound funny.
PHOTOGRAPHY — Demonstration slide-tape where a love letter has different meanings to —the girl who wrote it; the mailman who has to carry it; the boy who receives it; the garbageman who takes it away.	Take close-ups of objects, or unique points-of-view to reveal new meanings.
MOVING IMAGE—Film: "That's Me." Discuss: What's "me" to me may not be the me "you" see in me.	Pudovkin experiment—intercut a face with different situations. Facial expression seems to change.
PRINT—Story: "The War of the Ghosts," an Indian tale. Twenty minutes after the story is read, students write down "exact" accounts of the story from memory. Because the tale is from another culture, its symbols haven't a discernible meaning: therefore, the students have a hard time remembering the story which, out of its context, seems meaningless.	Portray in writing the "I" in its different contexts: son, father, friend, teacher, nephew, etc. Observe how the "I' 'has different meanings in different contexts.

no longer be taught. The idea is to develop good curriculum, not to fill in circles. In theory, of course, the more media which get into the act and the react, the more opportunities the student has to learn.

This process is still only an approximation of out-of-school learning. We don't claim that students experience the real world in the same neat way they experience our model. The wheel is ordered. Natural multi-media learning is ragged. We don't plan it. We don't say, "First I'll watch Huntley-Brinkley, then I'll read the *New York Times*, then I'll talk with my friends." Rather, there is a spontaneity which leads to understanding. We do feel, however, that the wheel provides a *closer* approximation of this process than print alone does. At the same time, the wheel's formality is not anything to minimized or resisted. As a model designed for immediate practical use in public school education, it necessarily reflects the careful charting of that institution. We believe that the wheel is in fact a powerful enough tool to make the structured, artificial experience of in-school learning easier, more meaningful, and *better* than the natural extra-school process.

McLuhan suggests a potentially vicious manipulation of this experience. One of his most useful observations for educators is that we persistently force new media and methods into accepting old media and methods as their content. A natural tendency for teachers when first testing the wheel would be to stuff the often irrelevant inputs of a subject like geography down the student's throat via many media. Such a use of the wheel is a misuse of the wheel. The wheel is not a tool for intensifying dullness. Rather, it aims to get at all kinds of skills and content areas in a new and vital way. To a degree, these content areas must themselves be transformed to reflect the newness of the tool. Thus, basic skills like reading and writing must be redefined as the active and passive phases of the print medium, a context in which they are rarely seen in the schools.

THE WHEEL AND LITERACY SKILLS What about these basic skills? How are they treated in a wheel-oriented curriculum? The most immediate payoff of multi-media learning, of course, is that it turns kids on. Students who yawn their way through school copying their papers from encyclopedias and culling their reports from book jackets are wonderfully alive when given the opportunity to make films or record sound interviews. Many supporters of the multi-media approach are so impressed by this that they implicitly or explicitly advocate jettisoning reading and writing from the curriculum altogether. We believe such a notion is malicious. It ignores the fact that in our culture, print is the wild-card medium, the one most needed in work and play, the one most intrinsic to the other media, the one most vital to social, educational, and vocational fulfillment. Even when another medium is the focus, print is often present in this wild-card capacity. Thus, graphic design may have a print component. Sound production may include reading scripts or the words of a song. Photographs may be captioned or may include words.

In the traditional curriculum, however, many students, especially urban ones, repeatedly experience failure with reading and writing. Yet they want to, are able to, and *do* learn in the other media. All kinds of information is beyond the grasp of the literacy-retarded student, though not necessarily beyond his intelligence. Thus, the wheel permits non-print kids to be learners in school. More significantly, it provides a realistic context for teaching them the basic skills. In both the real world and the wheel world, print is just one way, albeit a most important one, that people learn. The wheel puts print in its proper place. The student is no longer intimidated by it. The pressure is off. As a kid moves around the love-wheel, for example, he becomes an expert in that issue, so that when he gets to a *story* about love, he knows where he's at.

Another important part of the argument is our contention that the student can transfer the basic communications skills he learns in the non-print media to the print medium. The fundamental issues of communication are inevitably raised by the wheel. What am I going to communicate? (Content-choice) How can I be sure my message is understood? (Feedback) Have I made my message clear in the physical sense? (Noise) We know that kids ask themselves these questions in the non-print media. They are concerned with whether the shots in their movies are focused and properly exposed. They suffer when their sound productions are marred by noise. Were they to similarly practice communication in the print medium, they would care whether their papers were sloppy or ungrammatical or meaningless. Or even dull. A sense of print's kinship with the other media is an important step toward improved literacy skills. Someday our urban students may even regard print as their own turf.

In summary, we believe that a wheel-oriented curriculum is superior to a print-oriented curriculum for three reasons—it offers easy access to many more content areas, it is in closer touch with natural learning, and it provides a better context for teaching literacy skills. Ultimately, this model aims to knock down the barriers walling off the schools from the rich sensory experiences made possible by the media of the twentieth century. The wheel can make available to kids a kind of learning that is more alive, more relevant, more consonant with the world outside the classroom. Not far beyond, we believe learning and creativity become much the same thing.

(Ed. Note: Media and Methods *would be interested in any wheel that you have successfully used with your kids. Send it along to us—we may well get something started here.)*